

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-17 (Canceled).

18. (Currently Amended) A method of recognizing an object based on pattern matching using a gray-scale normalized correlation method, comprising:

storing a reference image including a foreground and a background, the foreground and the background providing a predetermined contrast pattern;

inputting an image of the object, the image including a foreground and a background, the foreground and the background providing a predetermined contrast pattern;

obtaining a function for giving the predetermined contrast pattern of the reference image corresponding to the predetermined contrast pattern of the input image, the function providing a predetermined form pattern, the predetermined form pattern including ~~one of a convex pattern and a concave~~ rectangular pattern; and

calculating a normalized correlation coefficient between the reference image and the input image using the function[[]], the calculating step comprising:

calculating an autocorrelation coefficient of the reference image by assigning a density distribution value of a background area of the reference image to a first constant value and by assigning a density distribution value of a foreground area of the reference image to a second constant value different from the first constant value;

calculating a cross correlation coefficient between the reference image and the input image for the foreground and the background areas; and

obtaining the normalized correlation coefficient by dividing the cross correlation coefficient by a product of the autocorrelation coefficients of the input image and the reference image.

Claims 19 – 24 (Canceled).